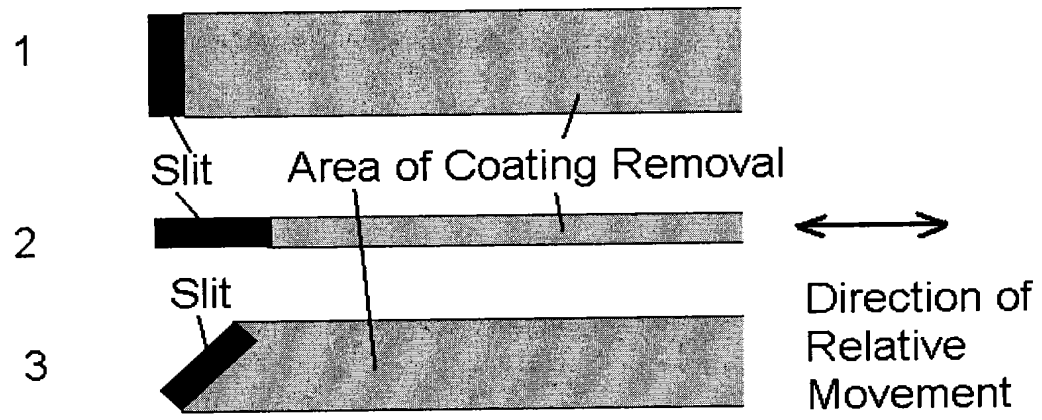
REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claim 46 has been cancelled in this amendment.

Claim 67 has been amended to clarify that the relative movement between the slit shaped nozzle and the substrate is linear and in a certain direction relative to the direction of orientation of the elongation of the slit, to thereby remove a coating from the substrate over a width/area determined by the angle of orientation of the slit shaped nozzle relative to the direction of relative movement. Basis for this is found in the paragraph beginning at line 10 of page 15 and the top paragraph on page 18, and is illustrated in the figure below which shows the result of three cases of the slit orientation.



As is apparent, in the case of a slit shaped nozzle having a set orientation, the area of coating removal is dependent on the orientation of the elongation of the slit relative to a direction of linear relative movement.

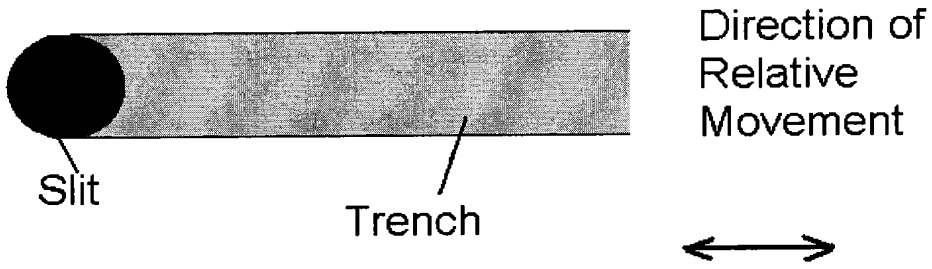
Claims 40 and 67 were again rejected under 35 U.S.C. §103 as being obvious over Fornsel in view of Babko-Malyi and Carr. According to the Office Action, Carr teaches rotating nozzles in order to shape a workpiece. However, the rotation of the torch in Carr occurs during the relative movement and does not the "width/area."

Carr discloses a method of shaping a workpiece using a plasma torch. Referring to Fig. 1 of Carr, a stage 116 can translate and/or rotate a workpiece 110 on a chuck 112 to properly shape the workpiece using the plasma from the torch 68 (paragraphs [0030] and [0033]). In particular:

> If any shape on the part is required, other than a Gaussian depression of various depths, it may be necessary to translate and/or rotate the part relative to the torch, although it may also be possible to translate and/or rotate the torch with respect to the part, or both with respect to each other. If the torch is held stationary and lowered into the part a depression or pit may result. If the torch translates across the part *while spinning*, a trench may be produced. (Carr, paragraph [0068]; emphasis added).

That is, the teaching of Carr is that the spinning plasma torch forms a depression and that the depression is elongated into a trench if the workpiece is moved relative to the torch. The trench may be straight if the chuck is moved in translation or may be annular due to the spinning of the chuck.

However, the effective width of the trench is not changed by the direction of the relative movement of the nozzle in Carr, even if the torch were to have a slit shaped nozzle, because the torch is spun during the movement – it is not set at a certain angle. This is evident from the figure below. That is, since the torch is spun it will form a circular depression when there is no relative movement, and will form a trench of fixed width in the case of relative movement in any direction.



Since Claims 67 now recites "producing a linear relative movement in a certain direction between the nozzles, including the at least one slit shaped nozzle set such that the

direction of elongation of the slit has the certain orientation direction on the surface of the substrate, and the substrate to thereby remove a coating from the substrate over a width/area determined by an angle of the certain orientation of the least one of the slit shaped nozzles relative to the certain direction of the relative movement, and since Carr teaches that the nozzle is spun, and not set in a certain direction, whereby the area of the trench is the same for movement in any direction, it is respectfully submitted that these claims define over Fornsel in view of Babko-Malyi and Carr.

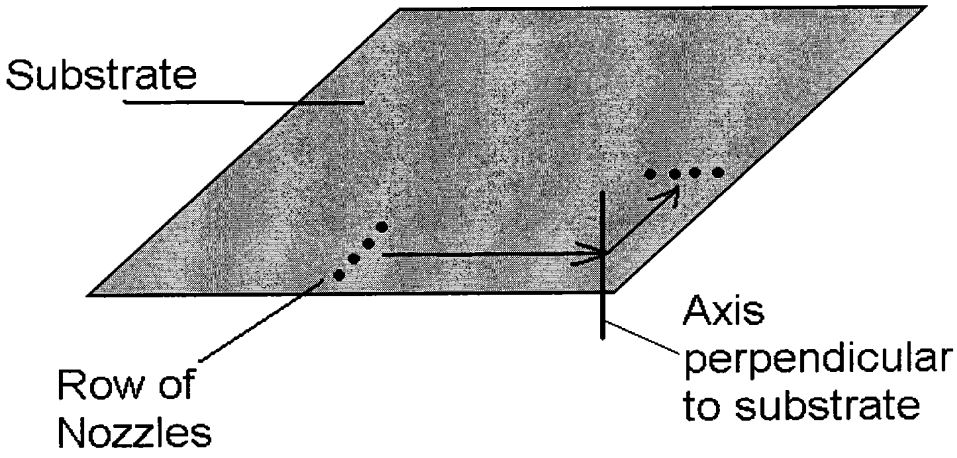
Moreover, as to the assertion in the Office Action (p. 8) that the particular angle of the slit shaped nozzle with respect to the direction of relative movement is within the skill in the art "to optimize ... for best results, it is noted that the invention recited in these claims does not lie in the selection of any particular optimum angle, but in the setting of a slit shaped nozzle at an orientation relative to the direction of linear relative movement, to control a width/area of the removed material. This is not taught in the cited prior art, regardless of the particular angle chosen.

Claims 68-69 instead steps of producing a relative movement between the plasma and the substrate, parallel to the edge of the substrate, and respectively pivoting the row of nozzles, or a slit shaped nozzle, about an axis perpendicular to the substrate in the region of a corner of the substrate, before producing a relative movement between the plasma and substrate parallel to another edge of the substrate. Thus, it is possible to negotiate a corner by pivoting the entire row of nozzles or a slit shaped nozzle about an axis perpendicular to the substrate.

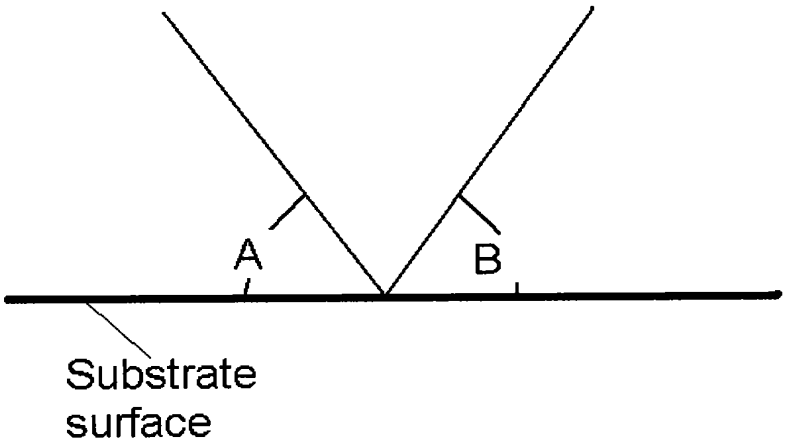
Claims 68-69, as well as Claims 36, 44, 49 and 50, were again rejected under 35 U.S.C. §103 as being obvious over Fornsel in view of Babko-Malyi and Carr and Siniaguine et al. Applicants had previously explained that Siniaguine et al (column 3, lines 27-41) merely describes that the *angle of incidence* of the plasma jet relative to the surface of the

article may be varied. It does not teach that a row of nozzles, or a slit shaped nozzle, should be pivoted about an axis *perpendicular* to the substrate in the region of a corner of the substrate.

In reply, the Office Action (p. 8) stated that the significance of this difference is not understood since the angle is varied in both cases. The significance of this difference is therefore illustrated with reference to the figures below.



For example, the figure above illustrates the case where a row of nozzles is pivoted about an axis perpendicular to the substrate in the region of a corner of the substrate. In this case, the row of nozzles can "turn the corner" while maintaining the same width for the area of coating removal. On the other hand, Siniaguine et al discusses the angle of the plasma jet to the substrate surface, e.g., the angle A or B in the figure below. This cannot result in a row of nozzles turning the corner of the substrate. The claims therefore also define over this prior art.



Dependent Claim 47 was rejected as obvious over Fornsel in view of Babko-Malyi and Carr, as well as Tanaka which were cited to teach the respective features of the dependent claim. However, the further reference does not overcome the shortcomings of the prior art with respect to the independent claim from which Claims 47 depends, and so the claims are believed to define over the cited prior art.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early notice of allowability.

Respectfully submitted,

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